

531,309

Rec'd PCT/PTO 13 APR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number
WO 2004/035505 A1

- (51) International Patent Classification: **C04B 40/00**, B28B 19/00, B28C 5/06
- (21) International Application Number: PCT/GB2003/004445
- (22) International Filing Date: 15 October 2003 (15.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0223875.6 15 October 2002 (15.10.2002) GB
- (71) Applicant (for all designated States except US): **BPB PLC** [GB/GB]; Park House, 15 Bath Road, Slough, SL1 3UF (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **O'KEEFE, Samantha, Jane** [GB/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB). **WOOD, Matthew, James** [GB/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB). **WICHT, Andreas** [DE/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB).
- (74) Agent: **CHAPMAN, Helga, Claire**; Chapman Molony, Renshaw Barns, Upper Woodford, Salisbury SP4 6FA (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR PRODUCING A MULTILAYER CEMENTITIOUS PRODUCT

(57) Abstract: A method of manufacturing a multilayered cementitious product comprising the steps of combining a cementitious material with water within a mixing container so as to form an aqueous slurry discharging the slurry from said mixing container through an outlet onto a support and inserting a setting accelerator into said slurry at or close to the outlet of the mixing container.

WO 2004/035505 A1

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/GB 03/04445

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C04B40/00 B28B19/00 B28C5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C04B B28B B28C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 742 179 A (SIKA AG) 13 November 1996 (1996-11-13) the whole document	1-9, 12, 13, 15-18
Y	-----	10, 11, 14
X	WO 97/23337 A (UNITED STATES GYPSUM CO) 3 July 1997 (1997-07-03) the whole document	15-22
Y	-----	10, 11, 14
X	US 6 423 133 B1 (CHANE-CHING JEAN-YVES ET AL) 23 July 2002 (2002-07-23) column 1, line 13 - column 6, line 67	1-4, 9, 15-18
X	US 5 246 163 A (AMANO TOKIMOTO ET AL) 21 September 1993 (1993-09-21) column 2, line 60 - column 3, line 42	1-3, 15-18
	----- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

22 March 2004

Date of mailing of the international search report

30/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Gattinger, I

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 03/04445

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 046 357 A (TWITCHELL F SHAWN) 6 September 1977 (1977-09-06) column 1, line 8 - column 2, line 14 -----	1-3, 15-18
X	EP 0 681 999 A (GRACE W R & CO) 15 November 1995 (1995-11-15) the whole document -----	1,4,6
A	DE 22 01 717 A (UNITED STATES GYPSUM CO) 26 July 1973 (1973-07-26) page 1, line 1 - page 3, line 20 -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/GB 03/04445

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0742179	A	13-11-1996	AT 185540 T	15-10-1999
			DE 59603322 D1	18-11-1999
			DK 742179 T3	10-04-2000
			EP 0742179 A1	13-11-1996
			ES 2139272 T3	01-02-2000
			GR 3032188 T3	27-04-2000
			NO 961799 A	11-11-1996
			TR 960992 A1	21-11-1996
WO 9723337	A	03-07-1997	US 5683635 A	04-11-1997
			AT 258491 T	15-02-2004
			AU 715479 B2	03-02-2000
			AU 1347197 A	17-07-1997
			CA 2213499 A1	03-07-1997
			CN 1175922 A ,B	11-03-1998
			DE 69631414 D1	04-03-2004
			EP 0810920 A1	10-12-1997
			JP 11501002 T	26-01-1999
			PL 321861 A1	22-12-1997
			WO 9723337 A1	03-07-1997
US 6423133	B1	23-07-2002	FR 2769308 A1	09-04-1999
			AU 9445998 A	27-04-1999
			CA 2305486 A1	15-04-1999
			EP 1019333 A1	19-07-2000
			WO 9918045 A1	15-04-1999
			JP 2001519309 T	23-10-2001
			ZA 9808997 A	03-04-2000
US 5246163	A	21-09-1993	JP 2066980 C	10-07-1996
			JP 4052377 A	20-02-1992
			JP 7103691 B	08-11-1995
			DE 4120409 A1	02-01-1992
US 4046357	A	06-09-1977	NONE	
EP 0681999	A	15-11-1995	US 5401538 A	28-03-1995
			AT 178874 T	15-04-1999
			AU 683535 B2	13-11-1997
			AU 1615795 A	16-11-1995
			CA 2144908 A1	10-11-1995
			CN 1119662 A	03-04-1996
			DE 69508998 D1	20-05-1999
			DE 69508998 T2	16-09-1999
			EP 0681999 A2	15-11-1995
			ES 2131766 T3	01-08-1999
			HK 1002896 A1	17-03-2000
			JP 8002959 A	09-01-1996
			ZA 9503312 A	05-01-1996
DE 2201717	A	26-07-1973	DE 2201717 A1	26-07-1973